

A NEW PHEIDOLE (SUBG. CERATOPHEIDOLE) FROM UTAH (HYMENOPTERA: FORMICIDÆ)

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Ants of the subgenus *Ceratopheidole* are similar to those of the typical subgenus *Pheidole*, differing mainly in the possession of a 4-segmented instead of a 3-segmented antennal club in the worker, soldier, and female castes. The groups are alike in having dimorphic and polymorphic forms. Although *Ceratopheidole* has been reported from most of the faunal realms, the species composing it are apparently not so numerous as those of *Pheidole*.

Only two species of *Ceratopheidole* have been found in North America, *granulata* Pergande and *clydei* Gregg. The type locality of *granulata* is Tepic, Mexico; that of *clydei* is the vicinity of the lava beds of the Tularosa Basin near Carrizozo, New Mexico. Pergande described *granulata*, the genotype, from two specimens which he thought, but was not quite sure, were soldiers. I have carefully examined them and believe them to be soldiers. So far as I am aware, the species is known only from the type specimens which are now in the collections of the United States National Museum.

On the other hand, *clydei* has recently been taken in two additional localities. L. F. Byars found some foraging workers of this species at Windy Point, altitude 7,100 ft., in the Santa Catalina Mountains of Arizona. According to him, they were collected from a rocky roadside park at the upper edge of the Xeric-Evergreen forest (oak-juniper, with some pines). W. S. Creighton was fortunate enough to find a colony containing both workers and soldiers in Split Mountain, altitude 500 ft., in the Anza Desert of southern California near Borego. This is the first North American species of *Ceratopheidole* in which associated workers and soldiers have been found. Robert E. Gregg has prepared an article describing and figuring the soldier caste.

Recently I was much surprised to receive fourteen workers of another *Ceratopheidole* from A. W. Grundmann, of the University of Utah. He wrote that they "were collected near the creek at the mouth of Ashley Canyon a few hundred yards below Merkeley Park. The specimens came from the wooded area along the creek and were found under a stone beneath a narrow-leaf cottonwood tree." In a previous letter he had stated that this locality is near Vernal, Utah, at an altitude of 6,000 ft. Robert E. Gregg and I agree that the form, which is described below, is a new species. The exact status and relationship of each of our North American species of *Ceratopheidole* is difficult to evaluate, since the worker caste is unknown for *granulata* and the soldier caste for this new form and until recently for *clydei*. The Utah individuals have many characters in common with *clydei* and may eventually prove to be only a subspecies. The main distinctions between the two are discussed elsewhere in this article.

Pheidole (*Ceratopheidole*) *grundmanni* n. sp.

WORKER. Length 2.3 mm.

Head subrectangular, 1.08 times as long as broad, with weakly convex sides, rounded posterior corners and almost imperceptibly emarginate posterior borders. Scape slender, curved at the base, enlarged apically, extending approximately one fourth its length (not including the pedicel) beyond the posterior border of the head; all funicular segments longer than broad, the last four segments forming a club, which is distinctly longer than the rest of the funiculus. Eye oblong, moderately large and prominent, with 10-12 ommatidia in its greatest diameter, which is less than 0.2 mm. Frontal carinae subparallel, with weakly developed lobes. Clypeus at least twice as broad as long, the middle of the anterior border with a distinct emargination. Mandible subtriangular, the masticatory border with 2 rather large apical teeth and 6 to 8 much smaller and irregular basal teeth. Thorax slender, widest through the pronotum, which is 0.5 mm., with obsolescent promesonotal suture but very distinct mesoepinotal impression. Epinotal spine well developed, 0.143 mm. in length, tapering from base to apex, and with acute tip. In profile, the pronotum is convex and the mesonotal outline forms an almost unbroken slope into the mesoepinotal impression; base of epinotum 0.2 mm. in length, sloping posteriorly. Legs rather long and slender but with incrassated femora and tibiae. Petiole pedunculate; in profile, with concave anterior surface and angular node. Petiolar node, from above, with rather sharp and transversely rounded superior border. Postpetiolar node, from above, with convergent sides on its anterior half,

and subparallel sides on the posterior half, the two halves meeting on each side to form rather small but distinct angles. Gaster with subangular humeri.

Mandibles, dorsum of thorax, petiole and postpetiole, and gaster somewhat shining; remainder of body subopaque. Cheeks, and regions between the eyes and front, longitudinally rugulose with punctulate interspaces. Sides of thorax and also lower surface of petiole and postpetiole punctulate.

Pubescence lacking on body. Pilosity not abundant, rather widely spaced, and consisting of suberect to erect, light yellowish or grayish hairs, many of which are noticeably long on the dorsal surface of the body. Hairs on the scapes short and rather appressed, those on the legs longer and more suberect.

Dorsal surface of head, and much of the gaster, infuscated. Eyes and mandibular teeth dark; remainder of body, especially in some lights, reddish brown.

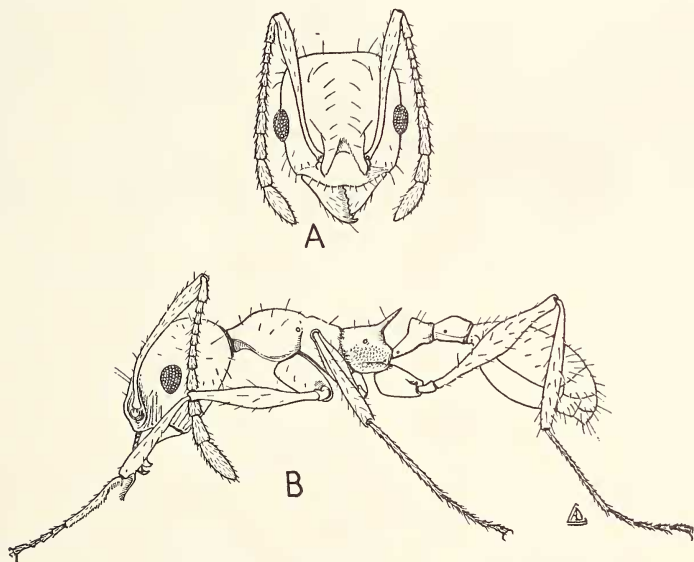


FIG. 1—Worker of *Pheidole* (*Ceratopheidole*) *grundmanni* n. sp. A, Frontal view of head; B, body in profile. Drawn from a paratype. (Illustrations by Arthur D. Cushman.)

Type locality—Ashley Creek near Vernal, Utah, 6,000 ft., May 28, 1946, A. W. Grundmann.

Described from a holotype and thirteen paratype workers. The holotype and ten paratype workers have been placed in the United States National Museum under U. S. N. M. No. 61792.

The three remaining paratypes are in the collection of A. W. Grundmann. The species is named for Mr. Grundmann, who has made some important contributions to the knowledge of the ants of Utah.

Paratypes range from 2.3 to 2.7 mm. in length. Some of them differ from the holotype in having the posterior border of the head straight, the superior border of the petiolar node transversely truncate, and the base of the epinotum horizontal or even slightly ascending posteriorly. They also differ in having the front or much of the dorsal surface of the head shining. The coloring of the head and gaster, although variable, is apparently always darker than that of the thorax, petiole, and postpetiole.

This species appears to be closest to *clydei*. It differs from *clydei* mainly in stature, color and sculpture. The worker of *grundmanni* has a more robust body, a more subquadrate head, more ommatidia (10-12 against 8-10) in the greatest diameter of the eye, and a distinctly lighter body (the body of *clydei* is black); and the dorsal portion of the body, especially of the thorax, is less heavily sculptured and therefore more shining.